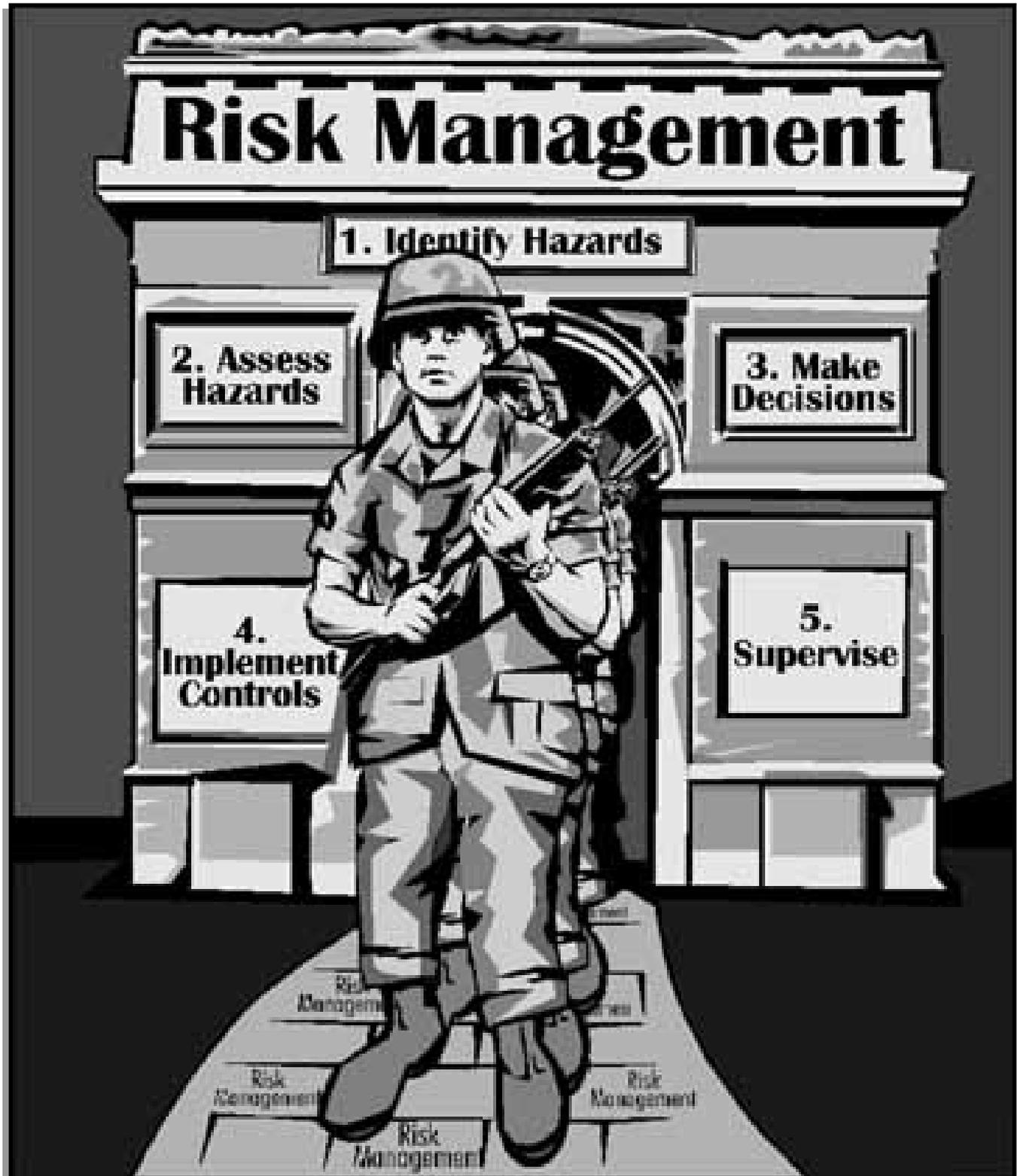


# ARMY GROUND-ACCIDENT REPORT COUNTERMEASURE

Volume 17 Number 8

August 1996



# Follow me!

## Infantry Branch leads the way in safe training

Infantry NCOs are leading the way at the Infantry Center and School at Fort Benning, GA, in a long-term cultural change in soldier safety. And they've had a dramatic 20 percent drop in overall recordable injuries in the last year, according

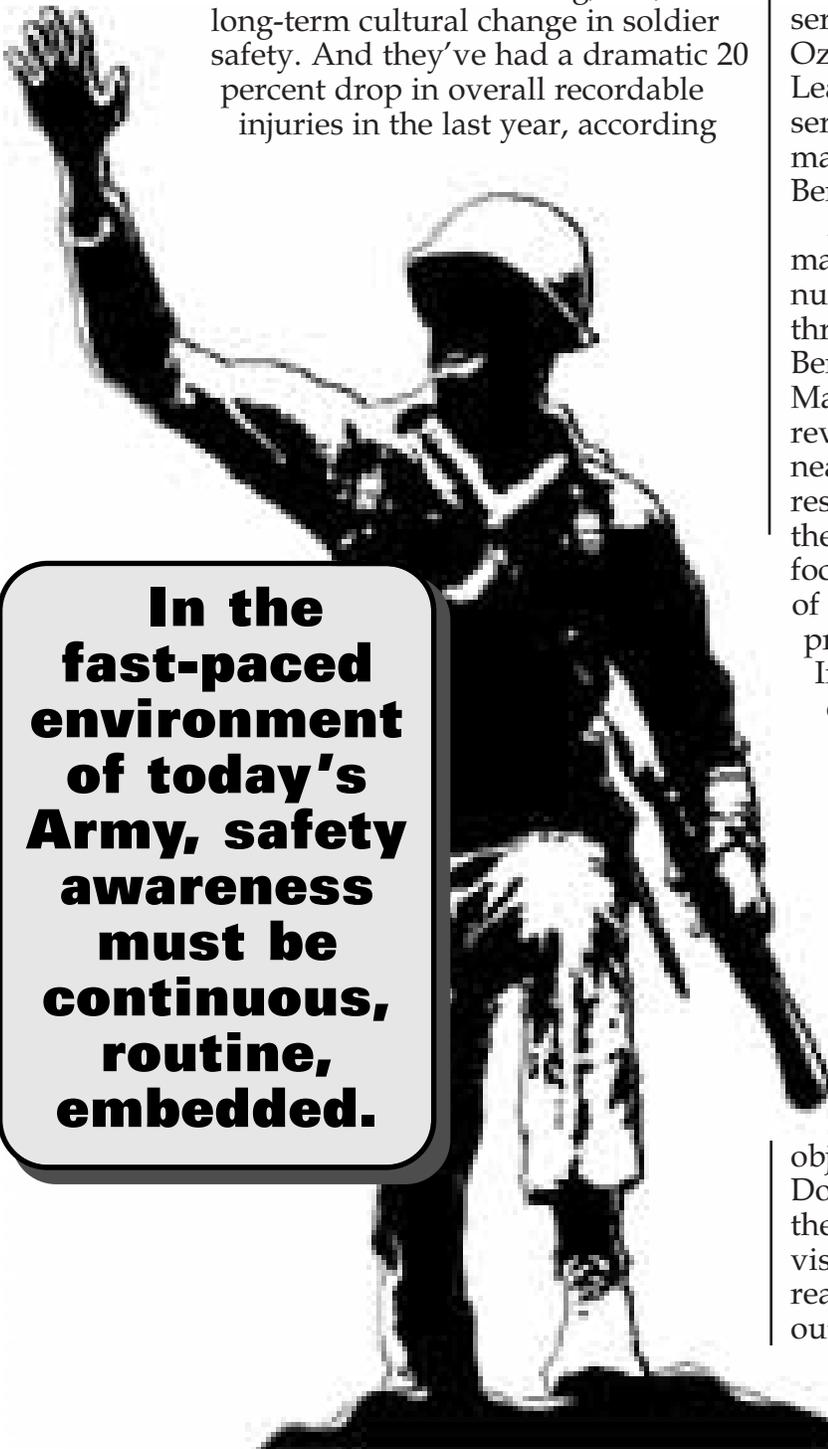
to SGM Steven G. Chittum, Garrison Sergeant Major. The idea that NCOs will make safety happen led the sergeant major and Mr. James F. Ozley, Combat Safety Support Team Leader, to work with the other post sergeants major in integrating risk management into all training on Fort Benning.

Aiming to empower NCOs to manage the risks of training the vast numbers of soldiers that come through the post each year, Fort Benning's Sergeants Major Risk-Management Process Action Team reviewed and analyzed all accidents, near misses, and safety inspection results. While accident reports told them what has happened in the past, focusing on the blinking yellow light of near misses alerted them to the probability of future accidents.

Inspections allowed them to evaluate unit readiness and, therefore, unit safety. From this analysis, the PAT identified Fort Benning's top 12 accident producers. The PAT's key discovery was that soldiers quite often underestimate risk.

The PAT's goal was to reduce the number of injuries to Fort Benning soldiers by reinforcing the role of the NCO in all aspects of safety.

The PAT envisioned goals and objectives for "Cleaning Up the Dirty Dozen" and developed controls for the hazards they identified. This vision took form in a laminated, ready-reference pocket card that outlines controls for the 12 identified areas. A portion of their mission-unique card has been modified in our example



**In the fast-paced environment of today's Army, safety awareness must be continuous, routine, embedded.**

on pages 11 and 12.

The Infantry's common-sense safety guide starts NCOs to thinking in key risk-management terms: identify and assess the hazards; implement controls. It also focuses NCOs on the supervision step necessary to successful risk management while the PAT carries out the evaluation function.

The card is not meant to replace

the risk-management process. It is a teaching tool for NCOs that enhances soldier use of risk management. Our hat's off to Fort Benning for their mission-focused, safety-conscious, integrated risk-management approach. ♦

POCs: SGM Steven G. Chittum, Garrison SGM, DSN 835-2813 or (706) 545-2813 or Mr. James F. Ozley, Infantry Branch Safety Office, DSN 835-2939 or (706) 545-2939



## Near misses can have far-reaching consequences

**N**ear misses serve as the yellow caution light that can alert us to future accidents before they stop the mission. The Safety Center and *Countermeasure* need your "war stories" to analyze trends that could point to the next accident victims. Contributors' identities will be protected. Please e-mail your near-miss experiences to [Saftnews@rucker-safety.army.mil](mailto:Saftnews@rucker-safety.army.mil). ♦

# Getting it straight

## Risk-management terminology

In the decade since 1987, when risk management was introduced to the Army, there has been an evolution in risk-management terminology. Standardizing the language so we understand the process will help leaders capture the power of risk management.

Risk management is a key component of force protection doctrine and will be included in AR 5-1: *Army Management Philosophy*. This risk-management standardization information was developed jointly with Training and Doctrine Command. It applies across the spectrum of force protection in Army operations, processes, and activities and includes force development, force sustainment, force projection, and individual decision making.

The standardized terms are —

● **Risk management** — the process of identifying and controlling hazards to protect the force. Its five steps represent a logical thought process from which users develop tools, techniques, and procedures for applying risk management in their areas of responsibility. It is a closed-loop process that's usable on any mission, any time, any place and by anybody.

● **Hazard** — any real or potential condition that can cause injury or illness to, or death of personnel or damage to or loss of equipment or property.

*Your unit is going to convoy from one installation to another over 2-lane state and 4-lane interstate highways. The M939 has a known hazard with braking, and it has a mandatory 40-mph speed limit.*

● **Risk assessment** — the first two steps of the risk management process. (Identify and assess hazards for their probability and severity.)

*You must assess the risk of taking M939s on an interstate highway, especially if the posted minimum speed is 45 mph. You're dealing with a known hazard at even slightly higher speeds than safe operational limits.*

● **Risk** — chance of hazard or bad consequences; exposure to chance of injury or loss. Risk level is expressed in terms of hazard probability and severity.

*If I take my 13 M939 5-tons, with their 40-mph speed limit, on an interstate where the minimum speed limit is 45 mph, what are the chances of an accident? How bad could that accident be? Would an accident stop the mission? How bad would the accident have to be to stop the mission? Could I lose soldiers? How?*

● **Exposure** — the frequency and length of time subjected to a hazard.

*I'm going to have 13 M939s on a high-speed highway for 4 or more hours. Five vehicles will carry 18 personnel each. Possible exposure of 100 soldiers to catastrophic accident.*

● **Severity** — the expected consequence of an event in terms of degree of injury, property damage, or other mission impairing factors such as loss of combat power or adverse publicity.

*M939s are known to rollover because of braking problems at speeds higher than 40 mph. In a rollover, I could lose soldiers — up to 20 killed or injured if just one truck is involved. This unit can't function if we lose even one soldier. I'm not going to lose a soldier. In addition, if we run down and kill civilians, our own personal anguish would demoralize the unit, and either way, publicity would take a terrible toll.*

● **Probability** — the likelihood that an event will occur.

*Minimum speed on the expressway is 45 mph. That's not much over the set limit, but it's over. If trucks exceed 40 mph, probability of an accident increases. I've got 13 trucks.*

● **Develop controls** — actions taken to eliminate hazards or reduce risk.

*If the mission is not tactical, can I get a bus? I have the option of putting my soldiers on an interstate below the minimum legal speed and expecting them to perform to that standard. I also have the option of picking a different route — one that keeps my people off the interstate and*

bypasses the cities. It doesn't take appreciably longer, and this is a routine mission with no sense of urgency.

I have selected experienced drivers – we're fortunate in that we have plenty.

I can eliminate one risk: We'll take a route that eliminates expressway travel. Now I must ensure that all soldiers have strip maps and that they're briefed on planned rest stops and supervised.

● **Make risk decision** – the decision to accept or not accept the risks associated with an action; it is made by the individual

responsible for performing that action.

I'm responsible for the outcome of this mission. I decided to not accept the risk of putting my soldiers on an expressway in M939 trucks. We can still complete our mission in a timely manner and do it with less risk of losing soldiers and equipment to accidents. If I couldn't lower the risk with controls, I would take the decision "upstairs." ♦

POC: Mr. Dennis Keplinger; Chief, Training Division; DSN 558-2947 or (334) 255-2947 or MAJ Cliff Hefner; Chief, Integration Division; DSN 558-3856 or (334) 255-3856

## RISK-ASSESSMENT MATRIX

		HAZARD PROBABILITY				
		Frequent	Likely	Occasional	Seldom	Unlikely
SEVERITY	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

Risk Level: E - Extremely High, H - High, M - Moderate, L - Low

### PROBABILITY

The likelihood that an event will occur.

FREQUENT - Occurs often, continuously experienced.

LIKELY - Occurs several times.

OCCASIONAL - Occurs sporadically.

SELDOM - Unlikely, but could occur at some time.

UNLIKELY - Can assume it will not occur.

### SEVERITY

The expected consequence of an event in terms of degree of injury, property damage, or other mission-impairing factors.

CATASTROPHIC - Death or permanent total disability, system loss, major property damage.

CRITICAL - Permanent partial disability, temporary total disability in excess of 3 months, major system damage, significant property damage.

MARGINAL - Minor injury, lost workday accident, minor system damage, minor property damage.

NEGLIGIBLE - First aid or minor medical treatment, minor system impairment.

# Risk-management tools

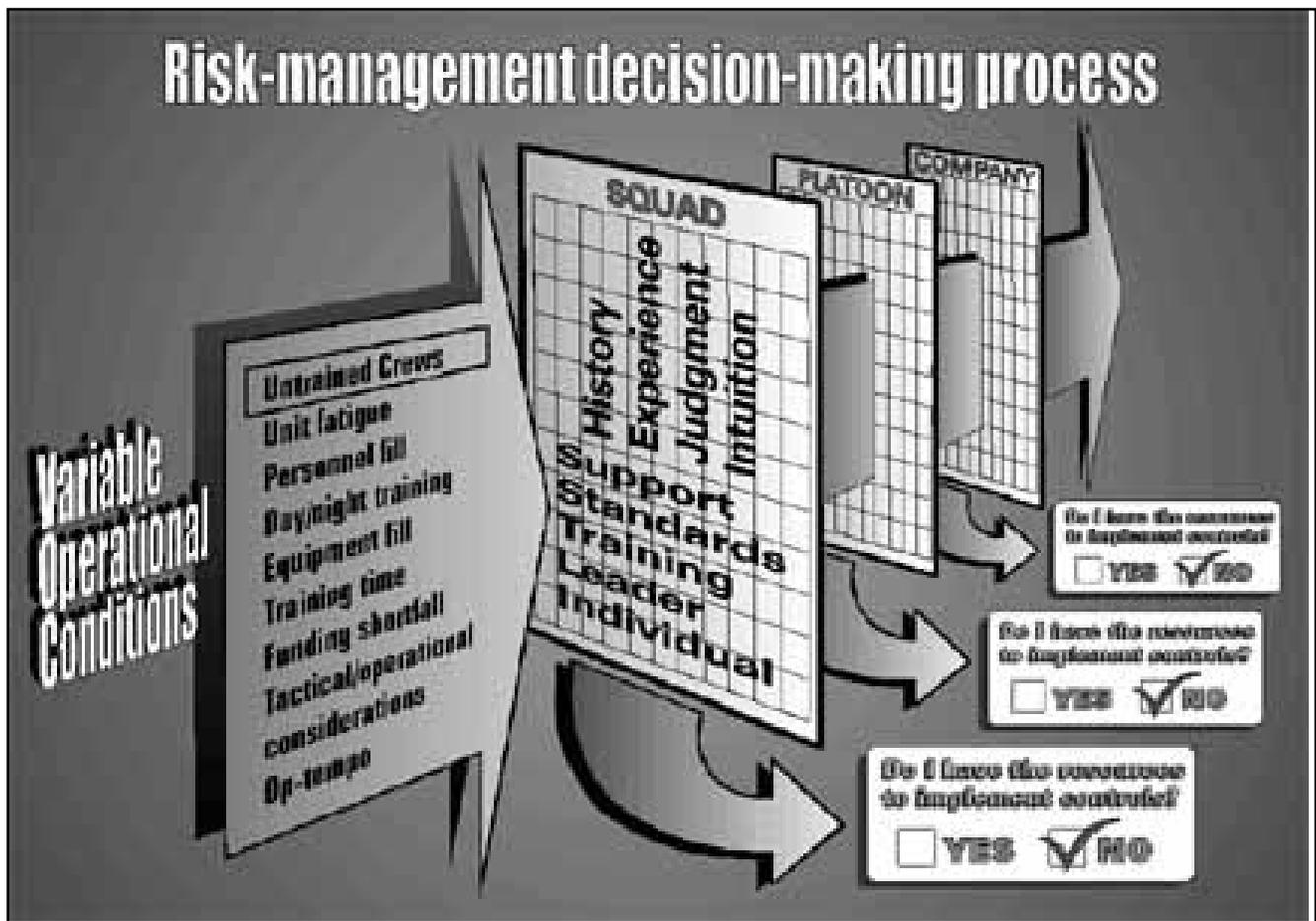
In addition to the five-step risk-management process, risk-management tools can be tailored to the unique requirements of the unit or mission. They can be used by civilians as well as soldiers, on duty and off. Risk-management tools available from the Safety Center (DSN 558-2062 or 334-255-2062) include—

- The Next Accident Assessment (Leader's Guide to Force Protection and Hazard Identification Toolbox)
- Automated Risk Assessment and Controls Programs
- Leader's Guide to Force Protection
- Hazard Tracking Systems (AR 385-16 and DA PAM 385-16)
- Risk-management AAR

Worksheet (Center for Army Lessons Learned (CALL) Newsletter 9509, U.S. Army Safety Center Technical Report 95-1)

- Commander and Staff Risk Management Card, 10 Jul 96
- Small Unit Risk-Management Booklet, 10 Jul 96
- ASMIS data base (U.S. Army Safety Center Army Repository for Accident Reports, DSN 558-2001 or (334) 255-2001) ♦

The Safety Center offers training in risk-management processes and techniques. For more information, call Training Division at DSN 558-2947 or (334) 255-2947.



# The process

**R**isk management is a closed-loop process that is applicable to any situation and environment. The five steps are—

① Identify hazards. Identify hazards to the force, both soldiers and equipment. Consider all aspects of current and future situations, environment, terrain, and known historical problem areas.

② Assess the hazards. Assess hazards to determine risks. Assess the impact of each hazard in terms of potential loss and cost, based on probability and severity.

③ Develop controls and make risk decisions. Develop control measures that eliminate the hazard or reduce its risk. As control measures are developed, risks are reevaluated until all risks are reduced to a level where benefits outweigh potential costs.

④ Implement controls. Put controls in place that eliminate the hazards or reduce their risks.

⑤ Supervise and evaluate. Enforce standards and controls. Evaluate the effectiveness of controls and adjust or update as necessary. ♦



## We're looking for a few good means—

**O**f practicing risk management. The Safety Center is trying to “capture” your good ideas and spread them Armywide. Send examples of risk-management techniques and “tools” that have helped you along with descriptions of the tools that best fit your levels of leadership from team or squad through corps. In addition to the Leaders

Risk-Management Tool Guide being developed, we'll run them in *Countermeasure*. E-mail to saftnews@rucker-safety.army.mil or fax to Ms. Betty Marcum at DSN 558-9478 or (334) 255-9478, or phone her at DSN 558-2688 or (334) 255-2688. ♦

**POC: Mr. Dennis L. Keplinger; Chief, Training Division; DSN 558-2947 or (334) 255-2947**

# At the speed of life

## Voice of experience came too late

**M**y friend said “Tim, you should let me drive you home. You don’t look so good. Really.”

That’s what he said to me, and I did what any (check one) –

- Red-blooded American male
- Intrepid Army aviator
- Safety professional

would do. I replied, “Hey! No problem! I can drive myself. If

something goes wrong, my car knows the way home.”

Did this conversation take place at –

- A. Happy Hour?
- B. The local watering hole?
- C. Unit party?
- D. None of the above?

The answer was D, none of

the above. That conversation took place at my office about 9 a.m. on a Monday. My friend was right: I didn’t look good. I also didn’t feel good, and hadn’t for about a week. I’d been nauseated; I had a rash; I felt blah. I’d even talked to the flight surgeon, and he’d given me a prescription and told me to take it easy. Again, I did what any (see paragraph above – the one beginning red-blooded American male) would do. I followed his directions – except the part about taking it easy.

It was a holiday, after all, and around my house, that usually means friends and family, a nice meal and

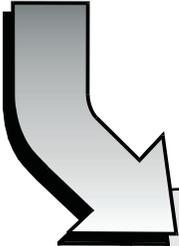
fellowship. My appetite was gone, but I put up a good front. I tasted everything and then turned in early. I awoke the next day feeling lousy and fleetingly entertained the idea of calling in sick. But being (see same paragraph referenced above, “red-blooded...”), I didn’t. Within an hour of reporting to work, I knew I had to go home. *Yet, I turned down my friend’s offer of a ride.*

You can guess the rest. Just seconds from my driveway, I became disoriented, drove off the road into a concrete drainage ditch, and struck a culvert head-on. I now have four disks in my back with compression fractures, and I may never fly again.

Would I have agreed to fly a mission (or drive a tank) in the physical condition I was in that morning? Of course not. It would be inexcusable to operate high-tech, potentially dangerous equipment in that condition. So why would I think there was a difference between flying high-tech, potentially dangerous equipment and driving a high-tech, potentially dangerous automobile?

Take a lesson from me: If you’re too sick to fly (or accomplish the mission), you’re too sick to drive. Every time I pass that culvert on my way to the house, I think to myself, “Sure wish I’d accepted that ride!” ♦

**Editor’s note:** The above article was written by CW5 Tim Skinner, Operations Officer, Investigation Division. While he flies for a living, the ground bound can also learn a valuable lesson from his experience. He is recovering nicely.



### Risk-management pointer

**S**oldiers who aren’t mission ready also aren’t up to driving a privately owned vehicle. The POV is the Army’s number one killer of soldiers. ♦

# New Safety Center SGM addresses the field

**"M**y job as the new sergeant major of the Safety Center is to see that soldiers in the field get the best we have to give them. I believe that our best product is risk management, and I will push for the integration of risk management Armywide. I'll also be taking the risk-management concept on the road, as it were, to get it to the users – soldiers in the field – where it can be used to save lives and equipment. Used this way, risk management will increase the Army's potential combat power. In addition, I'll be working with Training and Doctrine Command to embed risk management into NCO training at all levels.

"We want NCOs to know and live by the five simple steps that save lives. Risk management works. It can and should be incorporated into the way soldiers think and act.

"I also come to the Safety Center to be a conduit for information concerning risk management and safety issues to and from the field. And, of course, we at the Safety Center will continue to perform the functions we always have: investigating accidents, getting the word out on accident causes and lessons learned, and maintaining a database for accident-prevention purposes. I plan to continue the Safety Center's tradition of working actively to protect the greatest natural resource this Army has – its soldiers." ♦

—SGM Gregory L. McCann, U.S. Army Safety Center, 558-3575 (334)-255-3575 or E-mail, [mccannng@rucker-safety.army.mil](mailto:mccannng@rucker-safety.army.mil)



**"It will make a difference if NCOs, soldiers, and other leaders use risk management to protect the force."**

# Mine detection

## GPS not a stand-alone procedure

If you've been reading your technical manuals or even some local newspapers, you may have gotten the idea that global positioning systems (GPS) are the wave of the future for minefield recording. They are not. In fact, using GPS alone to locate or record minefields will lead to injuries and deaths that could have been prevented.

GPS has been touted as accurate enough for precise minefield recording. This is incorrect. GPS can provide a minefield's general location, but it may not be used for specifics. Approved doctrine and tactics, techniques, and procedures (TTPs) still require that all minefields be located relative to a safe, fixed reference point that is at a prescribed safe distance from the suspected minefield.

GPS can provide a reasonable means of building a database of general minefield locations and boundaries for overprinting 1:50,000 scale maps, but GPS does not negate in any way the absolute necessity for following approved procedures for recording and mapping minefields. Approved TTPs must be followed whenever soldiers or civilians are required to precisely locate mines or minefields or navigate or work in the vicinity of any

known minefield. Specific instructions for safe use of GPS are as follows—

- Based upon the high probability that civilian GPS systems as well as military ones will be used, the fixed reference point for locating a minefield should be located a minimum of 140 meters from the minefield.

- Do not use any GPS system for precisely locating mines or minefields. Use GPS systems for general positioning or capturing the approximate boundaries of the minefield relative to the fixed reference point.

- Do not use GPS for way points in lanes through minefields.

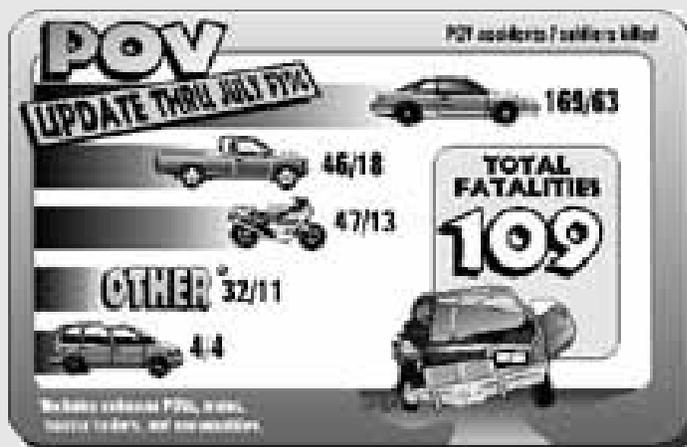
- When passing coordinates, always indicate the source of the coordinates.

- For GPS: GPS/type/datum/coordinate (Example: GPS/PLGR/WGS-84/coordinate)

- For map: Map sheet/scale/datum/coordinate (Example: 7267/1:50,000/WGS-84/coordinate)

The U.S. Army Engineer Center POC for the approved TTPs and doctrine is CPT Rick O'Donnell, DSN 676-0131, ext. 3-5518 or (573) 596-0131, ext. 3-5518. ♦

**POC: SFC Charlie Olsen, Engineer NCO, DSN 558-2695 or (334) 255-2695**



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THOMAS J. KONITZER  
Brigadier General, USA  
Commanding

NCOs will ensure that soldiers carry at least 1 quart of water and, as a minimum, drink the following amounts—

Heat category	Quarts per hour
1-2	1/2
3	1
4	1 1/2
5	2

**Objective 3.** During severe storms or lightning, NCOs will direct soldiers to disperse and squat down in an area away from tall trees or other hazards, ground weapons and load-bearing equipment away from themselves, and reduce the use of tactical radio to a minimum.

**Objective 4.** Adverse-weather safety will be evaluated as a part of risk-management worksheets. NCOs in the field will adjust training if weather conditions present imminent danger to soldiers.

**Objective 5.** NCOs will advise soldiers to reduce speed when driving in adverse weather.

**Objective 6.** During prolonged training under adverse weather conditions, NCOs will reinforce the use of buddy teams to monitor soldiers and will ensure transportation/shelter has been arranged.

11 **Process goal #6: NCOs will ensure recreational activities are conducted safely.**

**Objective 1.** NCOs will set the example during unit physical fitness training by demonstrating proper warm up methods prior to physical activity and by using authorized running routes only.

**Objective 2.** To prevent injury during recreational activities, NCOs will ensure participants are briefed on safety and game rules. NCOs will ensure participants are in good physical condition; that bodily contact is not excessive; that proper protective clothing and equipment is worn; and that referees ensure rules are followed.

**Objective 3.** As a safety precaution, recreational sports will be seasonal and oriented to the most popular sports for that specific season. An example would be conducting water survival training before warm weather.

**Objective 4.** NCOs will ensure designated drivers are appointed before the consumption of alcoholic beverages.

**Objective 5.** NCOs will ensure that their soldiers born on or after 1 Jan 1961 will attend an approved hunter-safety course before going hunting. ♦

## Risk-Management Process and Objectives

The United States Army \_\_\_\_\_  
Fort \_\_\_\_\_ is the best installation in the United States Army; and as the Army's premiere (large) installation, will implement and execute the best force-protection safety program through the following NCO risk-management objectives.

### Process goal #1: NCOs will ensure all training is conducted safely.

**Objective 1.** Risk management will be built into all training. Hazards will be identified and fully assessed. The assessment will address all aspects of the training situation, including environment, terrain, and known hazards. Controls will be developed to eliminate hazards or lessen accident risk. Hazards will be reassessed during training.

**Objective 2.** NCOs will ensure that instructor personnel/unit NCOs and cadre are trained on all training being conducted and that appropriate safety classes are attended prior to training.

**Objective 3.** During all live-fire training, procedures for the storage, transportation, and handling of weapons and ammunition will be strictly enforced.

**Objective 4.** NCOs will brief all soldiers on medical evacuation (medevac) procedures for day/night, ground, air, and water operations. Emergency radio frequencies and telephone numbers will be distributed to all NCOs and radio operators. All NCOs will know standard phone and standard medevac frequency.

**Objective 5.** NCOs will ensure that all power projection operations (rail loading, ship loading, aircraft loading, and convoy movements) will be closely supervised to ensure aggressive safety measures are adhered to and any deficiency immediately corrected.

### Process goal #2: NCOs will ensure unit training is conducted safely.

**Objective 1.** NCOs will ensure that instructor personnel/unit NCOs and cadre are properly trained and certified for the tasks being conducted and that appropriate safety classes are attended prior to training.

**Objective 2.** Prior to training, NCOs will conduct safety briefings that cover all hazards as well as controls and will emphasize balancing safety with realistic, high-quality training. Risk-management work sheets will be used as guides for briefings, with risk-assessment checklists completed daily.

**Objective 3.** NCOs will identify all combat lifesavers prior to training that requires combat lifesavers. NCOs will ensure that combat lifesaver certification is current and that all life support equipment is present, maintained, and updated as necessary.

**Objective 4.** Prior to field training, NCOs will brief soldiers on the hazards of wild life in the training areas, specifically snakes and stinging insects, and on hazard controls. NCOs will ensure personnel who are allergic to insect stings are identified prior to training and that insect repellent and sting kits are available.

**Objective 5.** NCOs will identify potential safety hazards by walking terrain where and when possible and rehearse training.

**Objective 6.** NCOs will recognize the hazards presented if soldiers sleep near roads, trails, or other areas where vehicles may travel. Dismount points will be established and all vehicles will be ground guided at night. Sleeping areas will be planned and briefed. Guards will be posted to protect sleeping areas as deemed necessary by NCOs. NCOs will ensure soldiers do not sleep in front of or under vehicles or trailers.

**Objective 7.** NCOs will ensure road guards are posted IAW unit SOPs for all unit training.

**Objective 8.** NCOs will evaluate all field expedients for hazards and ensure controls minimize or eliminate risk to soldiers. Training will be adjusted or cancelled if hazards place soldiers in imminent danger or risk of serious injury or death.

**Objective 9.** NCOs will encourage soldiers to report any hazardous acts or conditions. NCOs will direct soldiers to immediately halt training or call cease fire or check fire until a hazard is eliminated or controlled.

**Process goal #3: NCOs will ensure all privately owned motor vehicles are operated safely. (The term "POV" includes motorcycles.)**

**Objective 1.** To prevent POV accidents, NCOs will counsel soldiers with prior driving violations.

**Objective 2.** NCOs will conduct random POV inspections throughout the year.

**Objective 3.** Prior to any extended weekend (3- or 4-day), NCOs will inspect POVs and conduct safety briefings. The safety briefing will cover, as a minimum, seatbelt use, fatigue and rest breaks, speeding, reckless driving, driving under the influence of alcohol or drugs, designated driver programs, and phone numbers to call in circumstances requiring assistance.

**Objective 4.** NCOs will have the authority to deadline a POV based on safety considerations.

**Objective 5.** NCOs will ensure that all soldiers who own or

operate motorcycles will attend the installation motorcycle safety course and register their motorcycles on post.

**Process goal #4: NCOs will ensure military vehicles are operated safely.**

**Objective 1.** NCOs will ensure all military vehicles are treated as extremely dangerous. Unit vehicle safety programs will include –

- Driver training
- NCO supervision
- PMCS
- Load plans
- Assistant driver responsibilities
- Seatbelts
- Vehicle limitations
- Passengers vs. equipment load limits
- Defensive Driver Course
- Safety straps
- Emergency procedures

**Objective 2.** NCOs will ensure ground guides walk a minimum of 10 meters outside the path of the vehicles they are ground guiding and 20 meters outside the path when space permits. NCOs will ensure two ground guides are used while a vehicle is backing or maneuvering in close quarters or in or near bivouac areas. NCOs will ensure ground guides have portable lights during periods of reduced visibility.

**Objective 3.** NCOs will ensure all personnel exposed to eye and/or hearing hazards wear appropriate protective gear.

**Objective 4.** NCOs will caution ground troops, drivers, and vehicle commanders on the hazards of ground troops and vehicles training together in darkness.

**Objective 5.** To increase risk-management integration, NCOs will question soldiers on hazards and controls for different situations pertaining to their particular missions.

**Process goal #5: NCOs will ensure training in adverse weather is conducted safely.**

**Objective 1.** Soldiers who have had previous cold- and hot-weather injuries or recent illness will be identified prior to training in adverse weather conditions and will be closely monitored by NCOs IAW unit SOPs. Soldiers exhibiting signs of cold- or hot-weather injuries will be treated and evacuated as determined by the injury.

**Objective 2.** During hot-weather training or activities, NCOs will ensure that water is available to soldiers at all times. In addition,